

Abstract:

Within the framework of “Project Elbe“ qualitative and semi-quantitative samples of benthic macroinvertebrates were taken at nine sites on the Labe River (Elbe - Verdek, Němčice, Valy, Lysá, Obříství, Děčín, Hřensko) and two sites on the lower part of the Vltava River (Moldau - Podolí, Zelčín) in September 2005; moreover two sites were newly sampled on the Labe (Debrné, Schmilka). Having compiled and identified the organisms, the provided data were added into the database from previous samplings in 1996-2003.

As a result of the growing quality of water in the Labe, we noted an increasing trend in number of identified taxa of benthic macroinvertebrates at most of the sites. This trend is caused partially by invading species, which spread upwards in the river Labe, partially by autochthonous species, which seem to be returning to some parts of the Labe catchment, but also by floods in 2002, which redistributed sediments and thus formed new habitats for benthic organisms.

Our most significant invasive species are crustaceans *Orconectes limosus*, *Dikerogammarus villosus*, *Dikerogammarus roeselii* and molluscs *Dreissena polymorpha*, *Corbicula fluminea*. The increasing trend is noted at the species autochthonous in the Czech Republic: *Unio pictorum*, *Spaerium rivicola*, *Potamanthus luteus*, *Aphelocherus aestivalis*, *Hydropsyche contubernalis*. In 2005 we noted several unique findings as for instance caddis-flies *Setodes punctatus* and *Ceraclea nigronervosa* at upper part of the Labe, *Molanna angustata* in the Vltava in Prague-Podolí, and mayfly *Choroterpes picteti* in the Vltava below Prague. The reconfirmation of occurrence of the non-indigenous crustacean *Hemimysis anomala* in the border section of the Labe is a fact, which I consider important (it was first found at the previous sampling in 2003), as well as the first occurrence of the crustacean *Dikerogammarus villosus* in the Vltava catchment (Prague-Podolí). The floods in August 2002 supported the expansion of mayflies into the lower Labe River profiles.